

VI.5.3C-MAPX PROGRAM FCST NEXRAD MEAN AREAL PRECIPITATION FUNCTION (MAPX)

Purpose

Function MAPX is a preprocessor Function that creates 1 hour Gridded Mean Areal Precipitation time series.

Function MAPX uses gridded estimates of precipitation which are based on data from the NEXRAD network and processed using the Stage III precipitation processing system. Future data are obtained from Function FMAP when Technique FUTPRECP is specified.

Gridded data used by Function MAPX are read from a special database designed for MAPX. Data are stored in the files based on the HRAP grid system. Each MAPX area has associated with it the HRAP grid points within the area. The Stage III precipitation estimates for each of these grid points for the given hour are then averaged to determine the value to store in the MAPX time series.

Stage III processing must be run for each hour of the MAPX run prior to running Function MAPX because the MAPX time series must contain a continuous record of non-missing values for each grid point for the duration of the run period.

Values from the FMAP time series will be incorporated directly into the MAPX time series. The 6 hour values generated by FMAP will be evenly distributed into six 1 hour values to be added to the MAPX time series. If the observed data from Stage III overlaps with the FMAP, the observed accumulations are subtracted from the 6 hour FMAP prior to performing the time distribution. See Section VI.5.3C-FMAP for a description of Function FMAP.

A technical description of Function MAPX is in Chapter II.6-OFS-MAPX [[Hyperlink](#)].

HCL Input

Input to Function MAPX is through the Hydrologic Command Language (HCL).

The input consists of Techniques and their Arguments (see Section VI.5.3C-MAPX-TECH [[Hyperlink](#)]).

Sample HCL Input

The following is an example of a MAPX run using only gridded Stage III data as input:

```
@SETOPTIONS
  STARTRUN *-01
  ENDRUN   *+04
@COMPUTE MAPX
```

@STOP

The following is an example of a MAPX run that includes future estimates of precipitation. The example adds 24 hours of future precipitation in 6 hour time increments for area KNGO2. Function FMAP computes the FMAP time series. The FUTPRECP Technique requests Function MAPX to check for the existence of FMAP time series and use the available values.

```
@SETOPTIONS
  STARTRUN 0608
  LSTCMPDY 060918Z
  MOD
  .FMAP6 061000Z
  KNGO2 0.1 0.1 0.5 0.5
  ENDMOD
  FUTPRECP(1)
@COMPUTE FMAP
@COMPUTE MAPX
@STOP
```

Output

There are two types of output from Function MAPX. The first is the printer output. The second is time series data written to the Processed Data Base.

Error Messages

Error messages printed by Function MAPX are described in Section VI.5.3C-MAPX-ERROR [[Hyperlink](#)].